SYPHILITIC SCIATICA.

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I WISH to call attention to the causation of sciatica by syphilis. From the infrequency with which syphilis is mentioned as a cause of sciatica, it might be supposed that such causation was rather uncommon. In the returns made by sixty-three medical men in different parts of the world, in answer to Dr. Lauder Brunton's circular propounding certain questions in regard to sciatica, forty-nine of the reporters recognize the rheumatic form; forty the gouty; thirty-nine the neuralgic, and eleven have seen it produced by pressure, while the syphilitic form is spoken of by but twelve. Further than this, according to the reports of these medical gentlemen, "chronic periostitis has been found to cause it (sciatica) in the experience of seven writers. No less than five speak of malarial sciatica, evidently regarding it as one of the neurosal sequelæ of malarial infection. Other three writers describe an inflammatory form of sciatica. Of the remainder, one alludes to cancer as a cause, one to struma; while one speaks of a toxic form, one of its dyspeptic origin, and one is opposed to any divisions." (See article "The Return on Sciatica," p. 107, *Practitioner*, Feb., 1877). I quote this passage partly for the curious interest attaching to such a scattering vote in regard to the causation of sciatica. Sciatica is an affection particularly liable to develop itself in those who are exposed to hardship, cold, dampness, and over-fatigue, and therefore is relatively common, broadly considered, among the patients who attend at our dispensaries. The frequency of neglected syphilis in this very class of people is such that if any one had met with a considerable number of sciatic cases, and had failed to trace the trouble back to syphilis as a

cause in any case, it would, judging from my own experience, give occasion for doubt whether a syphilitic origin had not been overlooked in some of them.

Let me fairly introduce the subject by quoting from my notes the account of several cases which have come under my own observation.

Case I.—*Left sciatica with papulo-pustular syphilide.*—G. P., male, twenty-eight years old; native of United States; dock builder, presented himself January 3, 1876. About two months previously, for the first time, experienced pain in the course of the left sciatic nerve, with exacerbations, which were specially severe at night. Examination revealed tenderness to pressure over the sciatic nerve from the point of its emergence from the pelvis to the popliteal space, but particularly at the sacro-sciatic notch, and in the popliteal space. No tumor or thickening found in the course of the nerve. The limbs were full and muscular—equally so—and the affected limb was entirely free from atrophy. In searching for a cause capable of producing this affection, my attention was immediately arrested by a papulo-pustular eruption which presented itself quite thickly over the face and scalp, body, and extremities. The patient admitted the fact of venereal exposure, and showed a small cicatrix on the corona of the glans penis, which, according to my recollection, was still slightly indurated. The cervical glands, including the submaxillary, were markedly enlarged, and one of them threatened suppuration. My search for a tangible cause of the neuralgia was unsuccessful. There was no tumor or thickening, or other neoplasm to be perceived in the course of the painful nerve; nor was the patient affected with any form of genital irritation, such as is capable of causing sciatica; the condition of his bowels, also, was satisfactory. Deeming it probable that the neuralgia was caused by the syphilis, I put him on treatment with mercurial preparations, both internally and by inunction, at the same time giving quinine and iron in tonic doses. In two weeks, having part of the time been without medicine, the man returned, and reported himself much better. The same treatment was continued till February 4, at which time the eruption had faded, and all trace of the sciatica had passed away.

The diagnostic considerations that made me regard this as a case of sciatica dependent on syphilis may be stated thus:

1. The man was of good bodily vigor, well nourished, and not

suffering from any cachexia, nor was there anything in his habits or manner of life capable of explaining the causation of his neuralgic affection.

2. His exemption from the sciatic affection previous to the onset of the constitutional symptoms of syphilis.

3. The result of specific treatment. I do not agree with the opinion that seems to be so generally held by the profession that, in the lack of other evidence, the therapeutic test, *i. e.*, the cure of a disease by anti-syphilitic remedies argues conclusively the syphilitic nature of the complaint. Still this consideration has weight, and should not be disregarded in forming a diagnosis as to cause. In this case I am of the opinion that the relief to the neuralgia which followed the use of anti-syphilitics argues a relation of cause and effect between the constitutional disease and the sciatica. The later history of this patient I am not acquainted with.

CASE II.—*Sciatica occurring in the late stage of syphilis; potassium iodide; cure; return of pain in nine or ten months.*—S. H., female, age 29 years, native of Ireland, came to me at the Demilt, February 7, 1876. Four weeks previously this patient for the first time had a pain along the left sciatic nerve of "a drawing, quivering sort," as she described it. There were also various dysæsthesiæ, sensations of coldness and numbness in the lower part of the left leg. Questioning elicited the following history: This woman had been married twelve years, during which time she had given birth to two children, including a still birth at the fifth or sixth month of utero-gestation, at which time she had been three years married. During this pregnancy there appeared on her vulva a small sore which soon healed, while at the same time she suffered from a vaginal discharge. Within a year from this she had a rose-colored eruption over her body, sore throat, alopecia, and enlargement of the cervical glands. For the four years before coming to me she had had rheumatoid pains in her limbs and body, and for two years headaches, which were worse by night. This woman was markedly cachectic and illy nourished. Examination showed tenderness to pressure over the lumbar and sacral spines, sacro-iliac synchondroses, sacro-sciatic notches, and along the sciatic nerves, also tenderness over the tibiæ. For treatment she took potassium iodide in large doses, with iron and quinine, under the use of which she improved, and soon ceased to attend at the dispensary.

At the time of writing this (January, 1877), I have again

seen this woman, and have had the facts above mentioned confirmed by her reiterated statement. She informs me that my treatment entirely relieved her of sciatic as well as of all rheumatoid pains, and that she remained free from pain until toward the close of the year, when she was attacked first with the bone aches, and then with a renewal of the sciatica.

She is still subject intermittently to attacks of violent pain in the sciatic nerve, with tingling, numbness, and subjective sensations of heat and cold in the limb. Examination of the leg shows tenderness over the sacrum and left sacro-ischiatic foramen.

I would add that I have again seen this patient within a day or two, and that at the present time (June, 1877), she has pain along the left sciatic, also in the right, which are of a dull, heavy sort, nearly continuous, and are worse by night when warm in bed. Has often had sensations of pricking, tingling, burning, and some numbness, she thinks, in the left leg. She thinks the left leg is as strong as the right. Exercise or standing causes the legs, particularly the left, to swell, and greatly increases the pain along the nerve. To measurement, the calf of the left leg is about one quarter of an inch smaller in diameter than the right; but no atrophy is apparent to the eye. There is considerable tenderness along the course of both sciatics, particularly the left, from the notch to the popliteal space. The pain she locates with anatomical accuracy in the course of the nerve, not at the points of emergence. The woman is markedly cachectic, and presents numerous evidences of syphilitic affection. This woman has certainly grown slowly but progressively worse during the last six or seven months, since the return of her sciatic pains, during which time she has been almost without treatment. It is worthy of remark, that while the general symptoms—diurnal osteocopic pains, with nocturnal exacerbations, mucous patches, periosteal thickening over sternum and tibiæ, and increased cachexia—show that her constitution is even more profoundly affected than ever, the special sciatic symptoms, though changed, are not increased in violence. They have extended, and now to some degree affect the right as well as the left sciatic; but instead of the intense darting pains that were felt at first, they are now rather of a dull, continuous sort, and, like the osteocopic pains, are more severely felt at night than by day.

Case III.—*Sciatica occurring in the late stage of syphilis; relief.*—E. D., 32 years of age, Irish, widow, came under my

treatment February 21, 1876. One month before she began to suffer from a feeling of discomfort in her left hip. This grew worse and became a shooting pain, following the course of the sciatic nerve and its branches (internal and external popliteal and external saphenous), as far down as the ankle and into the foot. The pain was not specially worse at night, but was aggravated by pressure and by working on the sewing machine. There were tingling and numbness of the parts affected, also stiffness and lameness of the limb. I learned from this woman that about seven years before her husband had become affected with an eruption over his body, and later had pains in his limbs and body resembling those of rheumatism. Several years after this she found herself affected with sores on her tongue, gums, and lips, which she described as like whitish patches, that persisted about five months. Following this she never noticed any eruption on her skin.

This woman's appearance was decidedly cachectic, her complexion being aptly described by Dr. Buzzard's term "muddy pallor." (Syphilitic Nervous Affections, p. 83, London, 1874.) Her body was meagre and ill-nourished. There were points of tenderness over the sacrum, both sacro-iliac synchondroses, left sacro-ischiatic foramen, along the course of the sciatic nerve, over the popliteal space and the head of the fibula on the same, left side. There was also periosteal thickening, with tenderness, over the anterior surface of both tibiæ. On making a vaginal examination there was marked tenderness when pressure was made backwards against the sacrum and toward the left side. The patient was put upon treatment with a combination of potassium iodide and mercury, with iron and cod-liver oil. In a month she was nearly free from pain and considered herself quite well. Since then the state of her health and the degree of sciatic pain has varied according as she has omitted or followed the treatment. The syphilitic taint is evidently not yet conquered, but she is only reminded of her active enemy, the sciatica, by an occasional twinge.

Attention has been frequently called to the fact that pain referred to the sciatic or to any nerve, may be either, first, symptomatic of some lesion of the nerve, or second, be unaccompanied by any change capable of detection in the nerve itself.*

* Landouzy, De la Sciatique et de l'Atrophie Musculaire, qui peut la compliquer. Arch. Gen. de Méd., March, April. May, 1875.

In the one case the seat of the pain is *real*, in the other it is said to be *virtual*. However difficult it may be to establish this proposition pathologically and clinically, it undoubtedly makes a true distinction, and one which it is important to bear in mind clinically.

I. What are the lesions which syphilis inflicts upon the sciatic nerve, and after what *modus operandi* do they produce sciatica? There is sufficient clinical and post-mortem evidence, first, that the neoplasmata, which occur principally in the late stage of syphilis, are capable of producing violent pains and loss of motor function in the sciatic, as in other mixed nerves, by pressure. While the deep position of the sciatic nerve does not entirely shield it from injury by external violence, it rather exposes it to pressure from new growths that may occur in its course, at the same time that it makes it easy for this to happen without the liability to detection. This might take place by new formation seated at its point of emergence from the spinal canal, in its course through the pelvis from tumors attached either to the walls of the pelvis itself or to the viscera contained therein. Again, it would require but an inconsiderable amount of thickening, a small deposit of new material about the margin of the ischiatic notch, to so narrow its gate of exit, as to set up all the symptoms of compression in the sciatic nerve. Outside of the pelvis the sciatic is still exposed to injurious pressure from syphilitic gummata and bony or periosteal growths. But owing to the double fact, that the sciatic—including its branches—is largely tolerant of pressure, and that in its course through the thigh and leg, where not bound firmly down by muscles, as beneath the glutei, or by fascia, as where its peroneal branch turns over the head of the fibula, it has considerable lateral play, a tumor or new growth occurring in relation with the nerve outside of the pelvis, will require to be of great size in order to necessitate harmful pressure.

Zambaco (Des Affections Nerveuses Syphilitiques, par D. A. Zambaco, Paris, 1862, p. 250), gives the case of a man in the service of M. Rostan, at the Hôtel Dieu, Paris, who four years after becoming affected with an indurated chancre, for which he had been submitted to a mercurial treatment, was taken with a series of very grave symptoms; two exostoses began to form, one on the anterior part of the sternum, the other on the horizontal portion of the inferior maxilla. "When he entered the hospital, he was as thin as a skeleton, and presented the ap-

pearance of marked cachexia. . . . The inferior portion of the trunk offered only very dull sensibility to touch. Pinching and pricking with pins caused but slight pain. The lower limbs refused to support the body, and the patient could only move with pain and great difficulty. He had violent osteocopic pains in the lower limbs, but chiefly suffered from an *incessant left sciatica.*"

"The autopsy revealed within the vertebral canal, extending from about the lower half of the dorsal through the whole extent of the lumbar portion of the (rachidian) cavity, a gelatinous thickening of a gummy consistency which compressed the spinal cord. In the left buttock, beneath the muscles, was a tumor of the size of a nut which compressed the sciatic." Microscopic examination, made by Charles Robin, showed this and the other tumors to be composed of such material as is found in gummata. In this case the syphilitic origin of the affection could not be in doubt, but the whole extent of the lesion was not to be made out before death.

Piorry gives a case in which a periostosis or an exostosis on the left transverse process of the third lumbar vertebra compressed the corresponding lumbar nerve, and produced pains in the lumbar and sciatic plexus, and in the sciatic nerve; also enfeeblement of the limb on the same side. Treatment was followed by complete recovery. (Prof. Piorry, *Moniteur des Hôpitaux*, May 17, 1853, p. 470, quoted by Gustave Lagneau, fils, Maladies Syphilitique du Systême Nerveux, Paris, 1860, p. 337.) Yvaren narrates the case of a lady who became infected with syphilis soon after her marriage. During the following seven years she gave birth at not long intervals to six children, of which one was stillborn, two had unmistakable evidences of hereditary syphilis, and only one outlived early infancy.

As before pointed out, a syphilitic growth, capable of making harmful pressure on the sciatic in the thigh, will as a rule be of such a size as to insure its easy discovery by physical exploration. Within the pelvis, or directly at the outlet of the sciatic from the same, the case may be quite different. In such a case the diagnosis would have to rest mainly upon a careful study of the symptoms. In most cases of pressure by tumors upon nerves of mixed function, we have, according to Weir Mitchell, "the usual sequence pointed out by Bastian and Vulpian. First prickling, tingling, and sense of heat, then exaltation of sensory function and even hyperæsthesia, with, finally, loss of sensibility and motion

in the affected limb." (Weir Mitchell, Injuries to Nerves, Phila., p. 119.) Let me remark here that it is much to be regretted that the reports of the cases just cited from Zambaco, Piorry, and Yvaren, do not inform us whether this order of symptoms was observed in them.

Anstie gives his views in the following words: "A third variety of sciatica, is the rather uncommon one, so far as my experience goes, in which inflammation of the tissues around the nerve is the primary affection, and the neuralgia is mere (*sic*) secondary effect from mechanical pressure on the nerve, which, however, is not apparently itself inflamed." "I believe," he continues, "that these cases are sometimes caused by syphilis, and sometimes by rheumatism. One of the most violent attacks of sciatic pain which ever came under my notice was in a syphilized subject, a discharged soldier, who had been the victim of severe tertiary affections, and had been mercilessly salivated into the bargain. This unfortunate man suffered dreadful agony, which was aggravated every night, but was never totally absent. The pain started from a point not far behind the great trochanter; pressure here caused intolerable darts of pain which ramified into every offshoot of the sciatic nerve, as it seemed, and made the man quite faint and sick. Large doses of iodide of potassium, together with the prolonged use of cod-liver oil, completely removed the pain and tenderness." (Francis E. Anstie, Neuralgia and its Counterfeits, London, 1871, p. 52.)

2. *A priori* it would seem highly probable that syphilis should be a frequent cause of neuritis or perineuritis, and thus of neuralgia in the sciatic nerve. While I am inclined to believe that such is sometimes the case, and while it cannot be doubted that a syphilitic neuritis of the sciatic would produce symptoms not differing widely from those caused by any other neuritis, I have yet been unable to find the proof necessary to establish the existence of such a lesion, either in the clinical records of cases, or in the reports of autopsies.

The literature of syphilitic nervous diseases, though not lacking in hints and assertions of belief in regard to the production of syphilitic sciatic neuritis, is singularly unsatisfactory and lacking in definiteness on this point. I have not been able to lay my hands upon the account of an actual case.

Lagneau, under the head of the pathological anatomy of syphilitic affections of the sciatic, makes no mention of neuritis, but

contents himself with considering the production of its neuralgic pains by tumors engaging the nerve either at its roots, or as it leaves the pelvic cavity. The lesions causing these neuralgic pains, remarks this author, are little known. (Lagneau, fils, Maladies Syphilitiques du Systême Nerveux, Paris, 1860, p. 337.)

Gros and Lancereaux use the following language: "Some ancient authors connect neuralgias, especially sciatica, with lesions of the neurilemma, with inflammations of, effusions into, or solid deposits in the substance of the nerve itself. Cotugno and Cirillo are of this number. They have seen nerves increased in size more than one-third, and presenting the consistency of tendons. (Leon Gros and E. Lancereaux, Des Affections Nerveuses Syphilitiques, Paris, 1861, p. 165.)

Weir Mitchell has seen neuritis brought on by cold or rheumatism, and as a result of *acute* neuritis; but only once as a consequence of syphilis. In subacute neuritis, according to Weir Mitchell, the affected nerve is tender over a large portion of its track, and the points of emergence from a bone or through a fascia are still more sensitive, thus differing from true neuralgia. The sensitive nerve tracks of neuritis also differ from the hyperæsthetic spots of neuralgia in being constant and alike tender at all times.

"In many old cases of neuritis" (Weir Mitchell, loc. cit., p. 67), "unless the nerve is small and deeply seated, it can be felt as an enlarged and hardened cord, so that it is frequently easy to distinguish even the deeply-placed sciatic nerve." "The redness which may overlie an acutely inflamed nerve I have not," says the same author, "seen in cases of chronic neuritis; but, when long continued, it is the cause of structural changes, such as atrophy of the skin, with causalgia, changes in the nails, œdema, and rarely of sclerotic thickening of the dermis. The pain of subacute neuritis is aching in character, and less distinctly follows the larger nerve tracks than does that of neuralgia. Like neuralgia it is, however, liable to increase at night, and may even affect such returns of violence at fixed hours, although it is rather to be described as remittent than intermittent."

I count it extremely unfortunate that peripheral nerves are not oftener examined at autopsies. If such examinations were more common than they are, it is possible that the observations of Cirillo and Cotugno, previously referred to, might be substan-

tiated. As it is, I am not able to find the report of any modern observer who has seen and handled such syphilitic sciatic nerves as these writers are said to have found.

Syphilitic lesion of the nerves is undoubtedly most common in the cranial, especially the oculo-motor, abducens, and patheticus. But even in these the disease rarely produces directly, as it would seem, a neuritis. The affection of the nerve is, if I mistake not, most frequently the result of pressure from neoplasmata or inflamed tissues in the nerve's immediate neighborhood. In certain cases the inflammation may, I believe, even extend by continuity, and invade the sheath of the sciatic nerve, thus producing a neuritis with all the symptoms of this affection. But this I believe to be a rare occurrence; even more rare in my opinion is it for syphilis to set up a primary neuritis of the nerve trunk itself.

In the lack of means for the study of syphilitic neuritis of the sciatic nerve, it seems to me worth while to consider the following case of syphilitic lesion of the oculo-motor nerve, which I find given by Heubner with admirable clinical and critical detail. Though I think it very doubtful if in this case the syphilitic hyperplastic inflammation first attacked the nerve itself, *i. e.*, its sheath, and did not rather spread to it by continuity, yet it seems as if it were more instructive to study it in this, which I think is its customary way of approaching and attacking a nerve.

Case XLVI.—*One month after a syphilitic chancre of short duration (about which there is question as to whether it was the first), eruption, headache. About one month after the outbreak of the eruption, during which the patient already had to keep his chamber, an apoplectic attack without loss of consciousness. In a short time ocular paresis. Onset of a drowsy condition, temporary aphasia, dizziness, headache, free intervals between. Again, one month later, further impairment, continued drowsiness, only occasional free moments, alternating delirium, involuntary stools, spastic convulsions of the extremities, at first left, later right sided; deep coma; death two and a half months after the outbreak of the severer brain symptoms.*

Autopsy: Syphilitic swelling of the left oculo-motor nerve; fusion therewith of the left posterior communicating artery; degeneration of this artery; extension of the process to a great number of other arteries, leading to narrowing of their caliber in a high degree. Syphilis of the testicles." (Dr. O. Heubner, Die luetische Erkrankung der Hirnarterien, Leipzig, 1874, p. 67.)

The normal structure of the affected nerve had disappeared throughout its entire course within the cranium. The external portion was not examined. The right homonymous nerve displayed medullary nerve-fibers with axis cylinders and sheath of Schwann in due fashion. The degenerated nerve fibers had given place to an abundant growth of connective tissue elements, which had choked out the proper nerve tissue.

"The important question," says the writer, "is, whence originate these cells? I hope the list of described cell-forms will furnish sufficient proof that we have to do with a vast proliferation of the normal endothelial sheath of the nerve-bundles. One can follow in complete succession the changes from the normal delicate endothelial plates into divided, then into long-shaped, and finally into spindle-shaped cells. It is by no means to be thought of as analogous to that of pus-formation. Besides these, round cells [(leucocytes)] were to be found here and there; but they were distinguishable by their nucleus and their whole form from ever so young spindle cells, between which and the round cells no transitional forms were to be observed. Along the vessels was seen but an inconsiderable collection of white blood corpuscles. In short, the whole appearance of every section and teased preparation declared plainly that the round, wandering cells played here no important *rôle*. On the contrary, I must decidedly maintain and here confirm the view already expressed by Petrow, that the starting-point of this syphilitic hyperplasia in nerves lies in the endothelial connective tissue-cell-plates, which the nerve, according to Ranvier's researches, possesses already in large amount."

"The syphilitic irritation imparts a tendency to the connective tissue of the nerve to proliferate. The granulation-tissue which is developed thereby and now represents the syphilitic new formation, choking out the original elements, arises in this case decidedly in the same way as, according to the old view of Virchow, every granulation tissue must arise, *i. e.*, through hyperplasia of the connective tissue elements situated at the spot." (Heubner, loc. cit., p. 85.)

In this case we have, besides the nerve and its sheath, many arteries and much surrounding tissue affected in such a way, and to such an extent, as to make it appear that the nerve, though itself the seat of excessive cell-proliferation, and despoiled thereby of nearly all trace of axis-cylinder, was by no means the first tissue in the neighborhood affected with the syphilitic hyperplasia.

Nerves, it seems to me, are not favorite points for the deposit of syphilitic new formations. Even less often than many other peripheral nerves does the sciatic seem to be exposed to the direct attack of syphilitic inflammation.

Recurring to the case by Yvaren, which I related early in this paper, I would call attention to the fact that in this and in nearly all the cases of syphilitic lesion affecting the sciatic nerve, there exists a history of previous extensive syphilitic lesions throughout other parts of the system. The syphilitic process attacks the sciatic only after having previously ravaged other more favorite fields. The reason for this does not appear, unless, being a nerve of keen sensibility, it would naturally happen that an early attack upon the sciatic would be at once severely felt, and demand attention by the pain produced. Further color is perhaps given to this hypothesis by the fact that the nerves found to be most obnoxious to severe syphilitic lesions are the third, sixth, and perhaps the fourth cranial, all of them endowed with little or no sensibility.

3. Writers on syphilitic nervous diseases are in the habit of appealing to congestion in explanation of a certain class of syphilitic neuralgias. The proneness of syphilis to produce congestion in other parts of the body lends a certain probability to this claim.

It seems to me more than probable that congestion plays a considerable, though not an independent part in the production of syphilitic sciatica. Syphilitic inflammation of periosteum, or of a gland, or a neoplasm, occurring in close proximity to the sciatic nerve, must cause a varying amount of congestion. It is the mechanical pressure of this congestion, and not congestion of the nerve itself, which, I believe, has to do with the production of sciatica in such cases. The same remark would in my opinion hold true of œdema.

II. We come now to that class of cases of sciatic neuralgia which are uncaused by structural change of the nerve itself.

4. There seem to me good grounds for believing that the syphilitic diathesis can cause sciatica, as it does other neuroses, in some occult manner, without producing any discoverable lesion. The truth of this proposition is not easy of demonstration. It rests on grounds very analogous to those by which the malarial poison is believed to produce neuralgia or any other neurosis.

It may be stated thus: 1. Cachexia is acknowledged to be a frequent cause of neuralgia. 2. Syphilis is a notable cause of cachexia. 3. Syphilitic cachexia and neuralgia are frequently found to coexist, and with the relief of the cachexia there comes relief of the neuralgia.

If in any particular case of this sort it has repeatedly happened that relief of the sciatica has followed the use of anti-syphilitic remedies, it will be difficult to refrain from believing that the cachexia and the sciatica have toward each other the relation of cause and effect, or, at least, that they are both the offspring of the same parent cause.

As to the *modus operandi* of the production of sciatica, when thus caused, whether directly through the action of the *materies morbi* on the nerve, or whether from the impoverishment of the blood by rendering it unfit nutriment to the system at large and the affected nerve in particular, is not known.

In each of the three cases given by myself, there was tenderness to pressure along the course of the sciatic, with special tenderness at the points of emergence and the popliteal space. But in none of them could the sciatic be felt as a hardened cord. Nor were there any of those trophic changes in the muscles, the skin, or its appendages, which are among the early results of neuritis. To my mind, of the cases I have given, none are to be considered as decidedly neuritic in nature unless possibly at the very earliest stage of this condition. In the patient, S. H., there are at the present time syphilitic growths beginning to show themselves in various parts of the body, besides which she is markedly cachectic. The continuous, persistent character of her pains, which are now beginning to appear in the right as well as the left sciatic, and are dull and heavy in character, follow the sciatic and are not referred to its points of emergence; I am inclined to think that in her, if a post-mortem examination were made, there would be found some hyperplastic change in the nerve itself. As I before said, there is no atrophy to be detected by the eye in the limb—the left—but the tape-line shows its circumference to be about one quarter of an inch less than its fellow.

DIAGNOSIS.

1. In making the diagnosis of syphilitic sciatica, it is necessary, in the first place, to establish the fact that, in addition to having neuralgic pain of the sciatic nerve, the patient has previously had

syphilis. If he exhibits decisive symptoms of this disease at the time of examination, the problem will be much simplified. If, however, no such symptoms appear, and the patient—as is especially likely to be the case if a woman—denies all history of syphilis, the problem becomes more complicated. It should not be forgotten that the fact of sciatica occurring in a syphilitic patient does not warrant the assumption that the nervous complaint is necessarily due to constitutional syphilis; it may be merely a coincidence.

2. If the patient has been free from sciatica previous to syphilitic infection, this fact will weigh in favor of the supposition that the neuralgia is of syphilitic origin. The converse of this proposition, however, need not necessarily be true.

3. While syphilitic sciatica may occur at an early period of constitutional infection, it is more likely to appear late. Consequently the occurrence of a first attack of sciatica late in the history of syphilis, is more significant of a syphilitic causation than its early appearance.

4. The occurrence coincidently with the sciatica of other neurotic troubles clearly traceable to syphilis as a cause, constitutes a presumption in favor of the syphilitic origin of the sciatica, and this presumption will be strengthened if the patient had, previous to constitutional infection, been free from both sciatica and the other neurotic affections.

5. Muscular atrophy occurring in sciatica is, according to Landouzy (Arch. Gen. de Méd., March, April, May, 1875), to be looked upon as diagnostic that the affection is not simple neuralgia. The muscular dystrophy points to Wallerian degeneration of the nerve, the result of neuritis. This atrophy is not the result of enforced quiet; for the patient is able to move his limb about, and can even use it with considerable freedom until an advanced stage of the affection, whereas the atrophy shows itself quite early. The pains of sciatic neuritis are dull, continuous, or nearly so, and persistent; also are felt equally throughout the whole course of the sciatic nerve, thus offering a marked contrast to the lancinating pains of a pure sciatica, which are chiefly felt at the extremities of the nerve, or in certain well-defined points of emergence along its course. (Valleix.)

6. In sciatic neuritis, again, the nerve is tender to touch, and can often be felt as a thickened cord beneath the skin.

The prognosis of syphilitic sciatica will depend upon a number of considerations. When the trouble is of ancient date,

has had many relapses, or has resulted in degeneration of the nerve, as evidenced by atrophy, or where the syphilitic taint is hereditary in origin, or still profoundly affects the system generally, as evidenced by cachexia, ulcerations, gummata, etc., and does not yield readily to treatment, the prognosis will, of course, have to be modified unfavorably. In general, however, the opposite is found to be the case. Speaking from my own experience, I would say that, as a rule, the fact of a sciatica owing its origin to a syphilitic cause should inspire the physician with confidence in his ability to cure it. The cause being removed, the effect also will be removed.

The treatment of sciatica due to syphilis is, in the main, the same as that of syphilis itself. In all the cases I have seen, which now number not less than six, I have mainly relied upon preparations of mercury or potassium iodide, and have not been disappointed in the result. The question which of these anti-syphilitics is to be preferred should be decided in the same manner as in the treatment of syphilis proper.

In Case I., where, synchronously with the neuralgic manifestation, there was present an extensive crop of papulo-pustular syphilide of recent date, pills of the protiodide of mercury with inunctions of mercurial ointment were used with the happiest effect, as evidenced by the early disappearance of both the eruption and the neuralgia.

In Case II., the syphilis was already an old affair, and potassium iodide was given with good success.

In Case III., also the syphilis had advanced to a late stage. Here again I administered potassium iodide, but combined with a mercury salt; and though the dose given was, as I now think, rather too small, the symptoms were relieved and removed for a time, only however to reappear later, in which they well illustrate the tendency of this complaint to relapse. But this was due, I take it, not to the inefficacy of the medicines employed, but to the lack of persistency with which the patient followed up the treatment. For, on resuming the treatment and pushing it with increasing doses, the pains were again even more quickly and effectually subdued. I have generally found that improvement is first marked by an amelioration or cessation of the more acute and violent pains—those intermittent twinges, which seem to pierce and traverse the limb like a knife or the transit of an electric shock. The dull, heavy, nearly continuous pains are more

persistent and difficult of removal. Both of these kinds of pain may exist during the same period. The question here arises, whether the nerve may not be the seat at the same time of purely neuralgic and also of symptomatic pains. I deem it not impossible nor inappropriate so to think. By persistency in the use of the remedies mentioned, the pains of this last sort may also generally be entirely removed.

The decision of the question whether in any case it is necessary to resort to the use of preparations of opium or other narcotics for the relief of pain and the production of sleep, will rest on the same general considerations as in any case of neuralgia.

The use of electricity in its two forms, both for the relief of pain and the maintenance of muscular nutrition when this is affected, should not be forgotten.

It hardly seems necessary to add that the use of iron, cod-liver oil, and other tonic and nutritive preparations for the relief of the cachexia and mal-nutrition should not be omitted.